

American Indian Lands Environmental Support Project

AILESP Version 2.1 Users Guide



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Chapter 1

Introduction

1.1 PROJECT OVERVIEW

The Office of Enforcement and Compliance Assurance (OECA) Tribal Program created the **American Indian Lands Environmental Support Project** (AILESP) v.2.1 to improve understanding and management of sources and impacts of hazardous substances on and near Tribal areas. The project combines GIS technology (ArcView) with EPA data in order to provide a customized tool which can identify, map, and query EPA regulated facilities that are on or within five kilometers of Tribal areas. The intended audience for AILESP are EPA and Tribal staff responsible for enforcement and compliance assistance activities on and near tribal areas. Others, however, may benefit from the mapping component of the project and/or the information contained within. AILESP v.2.1 may also be used by the OECA Tribal Program at EPA Headquarters to answer database query and mapping requests from the EPA regions and tribes.

Staff from all EPA regions with Tribal areas as well as eight tribes (St. Regis Mohawk Tribe, Red Lake Tribe, San Carlos Apache Tribe, Omaha Tribe of Nebraska, Cheyenne-River Sioux Tribe, Shone-Bannock Tribes, Tuscarora Nation, and Penobscot Nation) participated in the development and testing of the AILESP project. Phase One of the project involved compiling and distributing the draft AILESP data files and AILESP v.1.0 for comment to several tribes and regional offices for pilot testing and review (Summer and Fall of 1997). During Phase Two, the GIS project and underlying data were refined, expanded, and updated, based on comments received from EPA regions and Tribes. Version 2.1 is the final release in Phase Two.

1.2 AILESP VERSION 2.1 IMPROVEMENTS

AILESP v.2.1 includes updated data layers as well as improved functionality. These changes include:

Changes made in AILESP v.2.1:

- Use of U.S. EPA Envirofacts' preferred latitude and longitude coordinates to locate EPA regulated facilities on and within five kilometers of Tribal areas;
- Addition of RCRIS facilities and associated RCRIS enforcement and compliance data.
- The number of facilities identified as being on or near Tribal areas in v.2.1 is 8,627, compared to v2.0 which had 2,570 (v2.0 did not include RCRIS facilities); and
- Use of EPA's Facility Linkage Application (FLA) and the Facility Unique Identifier (Facility UIN) to identify facilities and all associated environmental permits, in place of the Facility Indexing System (FINDS) which was used in v.2.0 and earlier.

Previous upgrades made in AILESP v.2.0:

- Upgrade of the ArcView project from ArcView v.2.1 to ArcView v.3.0a;
- Addition of selected demographic attributes for Tribal areas and functionality to view this information;
- Addition of selected thematic data layers including:
 - National highways
 - Safe Drinking Water Information System sites
 - CERCLIS National Priority Listing sites
 - National mine sites
 - NAAQS Non-attainment areas;
- Modification of ArcView's printing functionality to standardize and simplify map creation;
- A tool that simplifies the addition of data layers to the AILESP v.2.0 project; and
- A tool allowing users to change the projection of both the current data layers and user-added data layers.

1.3 AILESP DATA

EPA data contained in AILESP include names and locations, compliance and enforcement histories, as well as pollutant releases and hazardous waste generation for EPA regulated facilities located on or within five kilometers of Tribal areas. In addition to facility-specific data, AILESP users may download aquatic impact and monitoring data, such as stream reaches with fish consumption advisories, contaminated fish tissues, and contaminated sediments. Other data layers available to users include National Ambient Air Quality Standards (NAAQS) non-attainment areas, National Priority Listing (NPL) sites, mining areas, Safe Drinking Water System sites, and highways. Appendix A of this Users Manual

provides a description of the available data layers. Because data included in AILESP comes directly from EPA data systems, any errors that exist in the source databases are also present in AILESP.

1.3.1 Sources of AILESP Data

AILESP contains available data from the following five EPA data systems:

- Facility Linkage Application (FLA),
- AIRS Facility Subsystem (AFS),
- Permit Compliance System (PCS),
- Toxics Release Inventory System (TRIS),
- Resource Conservation and Recovery Information System (RCRIS), and
- Biennial Reporting System (BRS) .

AILESP uses the geographic locations associated with individual EPA permits or identifiers (IDs)¹, geographic boundary files of American Tribal areas, and ArcView 3.0a software (Environmental Systems Research Institute, Inc., 1995) to identify facilities on or near Tribal areas. The permits and information used to identify and profile facilities came from AFS, PCS, TRIS, and BRS. The project uses these databases because they contain enforcement and compliance data as well as data on the release (AFS, PCS, TRIS) and storage (BRS) of hazardous substances at EPA regulated facilities. Appendix B of this Users Manual provides a description of each of these databases.

1.3.2 Facility Identification Process

The facility identification process began by extracting all permit IDs from the LRT_EF_COVERAGE_SRC table (Envirofacts Warehouse) where the latitude and longitude coordinates were characterized as the most accurate ("Best Value") location for an EPA facility, as determined by the Agency's preferred coordinate selection process. A total of 543,418 permit IDs with preferred coordinates were downloaded. AILESP then generated a subset of permits located on or near Tribal areas by graphically overlaying the locations of all permits onto Tribal areas, and utilizing ArcView's query capabilities to select those permits that were either on Tribal areas, or within five kilometers of Tribal

¹ In this report the term "permits" is used to describe both permits and database identifiers (e.g., a Toxics Release Inventory ID#).

area boundaries². A total of 9,292 permit IDs were determined to be on or within five kilometers of Tribal area boundaries. This number was reduced to 8,627 after screening the AFS, PCS, CERCLIS, RCRIS, and TRIS permit IDs through the Integrated Data for Enforcement Analysis (IDEA) database. The discrepancy between facility records in Envirofacts and IDEA is explained by a) permits/IDs which mapped to more than one Facility UIN, b) permits/IDs which mapped to the same Facility UIN, c) permits/IDs not found in the source program system, and d) program IDs not tracked by IDEA (e.g., AFS asbestos removal).

Each screened permit was subsequently linked to permits in other databases using EPA's Facility Linkage Application (FLA). For each facility, FLA assigns a unique facility identification number (Facility UIN) and identifying information that points to the linked program databases. AILESP assumes that all permits that were not linked to FII are single-permit facilities (i.e., no other permits are held by that facility).

EPA program databases such as PCS contain data elements that indicate whether the facility is located on Tribal areas or whether the facility is owned by an American Indian tribe. AILESP did not use these data fields for either of two reasons: 1) data fields did not exist in the databases at the time AILESP v.2.1 was constructed, or 2) the data fields were inconsistently reported. Over time, as the quality of Tribal-specific data elements in EPA databases improves, these data elements could provide additional means to locate facilities on or near Tribal Lands, and to verify the information in AILESP v.2.1.

1.4 GETTING STARTED

This section includes a list of hardware and software requirements, as well as instructions for installing the application, extracting data files, and opening AILESP v.2.1 in ArcView. In order to utilize AILESP v.2.1 effectively, the user must be familiar with using ArcView projects, views, and tables. *Chapter 3, Application Overview* and *Chapter 4, Using AILESP Version 2.1* provides users with information to use basic system functionality. For more detailed instruction, users should refer to the ArcView v.3.0a Users Guide.

²The Bureau of Indian Affairs (BIA) provided AILESP with the reservation boundaries, including American Indian reservations, American Indian trust lands, Tribal designated statistical areas and Tribal jurisdiction statistical areas. "Tribal Areas" is used throughout this document to designate the aforementioned lands.

1.4.1 Hardware and Software Requirements

To run AILESP v.2.1, users must have ArcView 3.0a software installed on their computer. The hardware and software requirements to run AILESP v.2.1 are the same as those for the ArcView software. Table 2, below, lists the minimum and preferred requirements for installing and operating AILESP v.2.1 project.

Table 2. AILESP v.2.1 Hardware and Software Requirements		
Hardware/Software	Minimum Requirements	Preferred Requirements
Computer	A 486 processor, 33-MHZ IBM-compatible personal computer	Pentium processor, 100-MHZ or better IBM-compatible PC
Available hard disk space (after ArcView 3.0 is installed)	50 MB (for AILESP v.2.1 project only)	165 MB or more (v.2.1 project and all seven additional data files)
Random Access Memory (RAM)	12 MB of RAM and 17 MB virtual memory	16 MB of RAM plus 17 MB virtual memory or more
Operating System	MS-DOS 5.0 or later, and Microsoft Windows 3.1, Windows for Workgroups 3.11, Windows 95, or Windows NT 3.x or later	MS-DOS 5.0 or later, and Microsoft Windows 3.1, Windows for Workgroups 3.11, Windows 95, or Windows NT 3.x or later
Color monitor	VGA or better (256 colors)	Configured for 256 colors or higher
ArcView	Version 3.0a	Version 3.0a
Printer	Minimum 8.5 x 11 color printer	Up to E-size plotter

1.4.2 Installing the AILESP v.2.1 Project

The EPA Tribal Lands division distributes the AILESP data files, AILESP v.2.1 project, and users guide via the Internet (<http://es.epa.gov/oeca/ailesp/download.html>) to EPA Regions and tribes for use, review, and comment. AILESP data files have been updated and expanded (e.g. national priority listing superfund sites, mining sites, highways data, and air non-attainment areas) based on comments already received.

The AILESP data are stored as an ArcView project. An ArcView project stores and organizes related ArcView components such as views, tables, charts, layouts, and scripts. AILESP v.2.1 consists of a single file (*ailesp.apr*) which links and accesses a number of

associated databases and shape files. By opening the project file, the user also opens all associated data files.³

1.4.3 Extracting the AILESP v.2.1 Project

The AILESP project file is distributed as a self-extracting zip file called *ailesp.exe*, and is 4.2 MB zipped and approximately 44 MB unzipped. The associated fish advisory data, national highways, NAAQS non-attainment areas, NPL sites, mining, Safe Drinking Water System sites, and stream reach files are contained within separate self-extracting zip files called *fishad.exe*, *nhpn.exe*, *nonatt.exe*, *npl_pts.exe*, *mines.exe*, *sdwis.exe* and *stream.exe*, respectively. The total size of these seven data files is approximately 45 MB zipped, and 105 MB unzipped. See *Appendix C, Data Dictionary*, for the names and sizes of the files associated with each self-extracting zip file.

<Currently, Regional .exe files are not available for AILESP v.2.1. Regional files for v.2.1 may become available in the future>

As an alternative to installing the national data files, you may install a regional .exe file. Each regional .exe file may contain fish advisory, national highways, NAAQS non-attainment areas, NPL sites, mining, Safe Drinking Water System sites, and stream reach data for a specific EPA region. Use regional data files to work exclusively with one EPA region.

DOS

If you are working in a DOS environment, extract the files by going to the directory where you copied the file, typing the file name at the directory prompt, and pressing the [Return] key.

Windows 3.1

If you are working in a Windows 3.1 environment, extract the files by double clicking on the file name (i.e., *ailesp.exe*) in the file manager or by using the RUN function in the file manager.

Windows 95


If you are working in a Windows 95 environment, extract the files by double clicking on the file in Windows Explorer or My Computer.

³ In addition, these associated files can be accessed by other ArcView projects. Associated files with a DBF extension (e.g., CITY.DBF) can be accessed by any relational database or spreadsheet that accepts DBF files for import.

When executed, the *ailesp.exe* file automatically creates a directory on the C: drive called C:\AILESP, and extracts several files to this directory. After you extract the *ailesp.exe* file to the C:\AILESP directory, extract the *fishad.exe*, *nhpn.exe*, *npl_pts.exe*, *nonatt.exe*, *mines.exe*, *sdwis.exe*, and *stream.exe*, to the C:\AILESP directory also. Due to time and disk space limitations it may not be practical to download and save to disk each of the zipped files at the same time. AILESP v.2.1 is customized to function without the fish advisory, highways, NPL sites, NAAQS non-attainment sites, mining, SDWIS, and/or the stream reach files.

1.4.4 Opening AILESP v.2.1 in ArcView

To open AILESP v.2.1, you must first open ArcView. An untitled project file appears on screen.

1. Select "Open Project...." from the File menu. The project selection dialogue box appears.
2. Select the appropriate drive, folder and project file name (e.g., C:\AILESP\AILESP.APR) and click [OK]. Depending upon the speed of the computer, ArcView takes several seconds or longer to locate the associated files.
3. If you saved the files to a different drive or path, such as a network drive, or a path other than C:\AILESP, you are prompted upon opening *ailesp.apr* to indicate the location of the files. After you specify the file locations, save the AILESP project. If you do not save the project at this point, AILESP v.2.1 asks you for the file locations each time you open the file. This is the only time you will save changes to the AILESP ArcView project. Any future modifications to AILESP v.2.1 should be saved under a different project name to preserve the original project.
4. If you download and extract the fish advisory, highways, NPL sites, NAAQS non-attainment areas, SDWIS sites, mines, and/or stream reach files at a future date they can be automatically loaded into the current version of AILESP by selecting the Add AILESP Themes button  from the button bar.

Note: If you saved the AILESP project file and associated files to a path other than the default path (C:\AILESP) you are prompted to indicate where each of the files is located. Click the Browse button to locate the requested file and either double click on the file

name, or click the file name once and click [OK]. If, in addition, you did not download and extract all the data files, you are simultaneously prompted to indicate where these files are. Because AILESP v.2.1 loads the associated files in a particular order you must locate the files that have been downloaded, and click [Cancel] for those files that have not.